

**IPR2023-00189**  
**U.S. Patent No. 9,278,256**

***lululemon athletica canada inc. et al.***

***v.***

***Nike, Inc.***

**February 14, 2024**

# The '256 Patent

1. A system comprising:

an athletic performance module configured to receive athletic activity data from a wirelessly-connected sensor worn on an appendage of a first user, wherein the first user is performing athletic activities at a first location; and

a challenge module configured to:

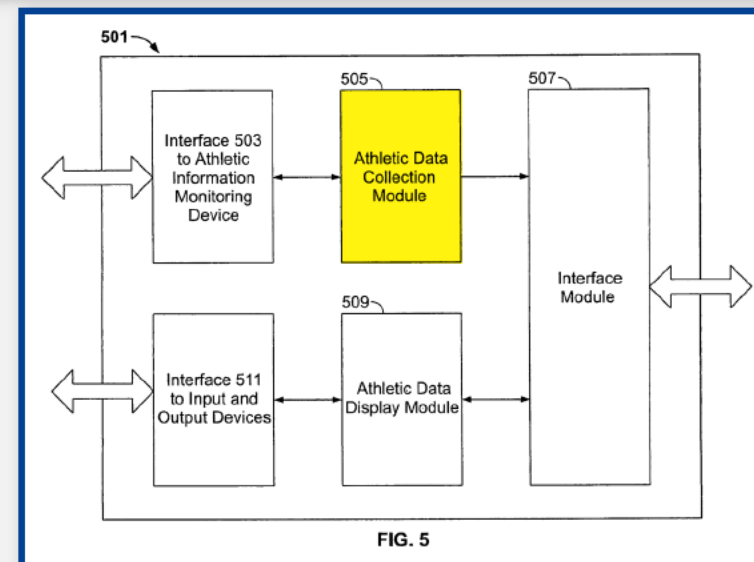
receive information specifying a challenge, wherein the challenge includes a competition between the first user, and a second user performing athletic activities at a second location, different to, and remote from, the first location;

determine, from the received athletic activity data, a first amount of athletic activity performed by the first user; receive data from a second sensor indicating a second amount of athletic activity performed by the second user;

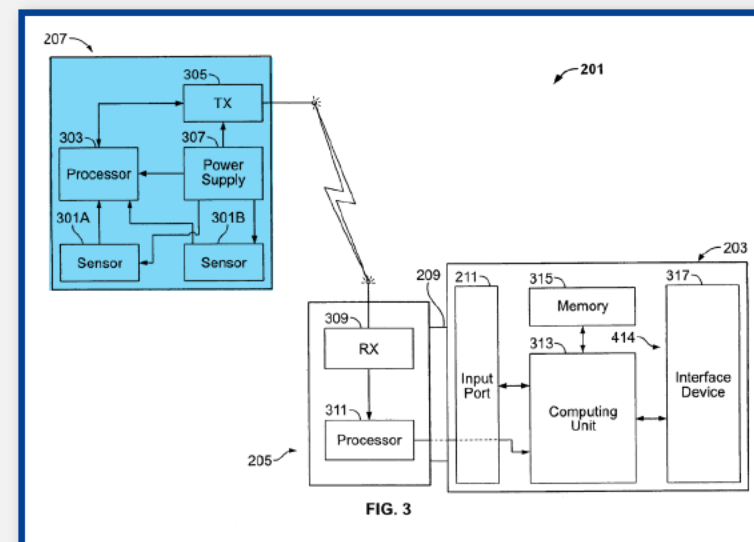
determine whether the challenge has been met by the first user based on a comparison of the first amount of athletic activity performed by the first user and a second amount of athletic activity performed by the second user; and

continuously generate and simultaneously communicate in real-time to the first user at the first location and the second user at the second location, an interface indicating whether the challenge has been met.

'256 Patent (Ex. 1001), Claim 1



'256 Patent (Ex. 1001), Fig. 5



'256 Patent (Ex. 1001), Fig. 3

# The '256 Patent

1. A system comprising:

an athletic performance module configured to receive athletic activity data from a wirelessly-connected sensor worn on an appendage of a first user, wherein the first user is performing athletic activities at a first location; and

a challenge module configured to:

receive information specifying a challenge, wherein the challenge includes a competition between the first user, and a second user performing athletic activities at a second location, different to, and remote from, the first location;

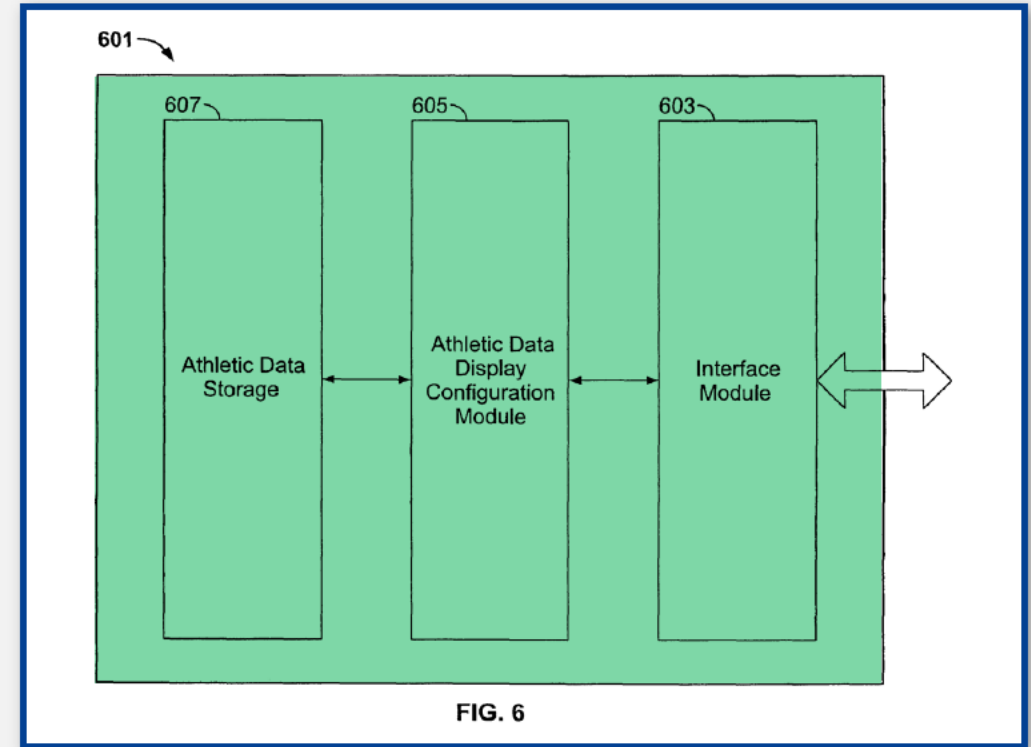
determine, from the received athletic activity data, a first amount of athletic activity performed by the first user;

receive data from a second sensor indicating a second amount of athletic activity performed by the second user;

determine whether the challenge has been met by the first user based on a comparison of the first amount of athletic activity performed by the first user and a second amount of athletic activity performed by the second user; and

continuously generate and simultaneously communicate in real-time to the first user at the first location and the second user at the second location, an interface indicating whether the challenge has been met.

*'256 Patent (Ex. 1001), Claim 1*



*'256 Patent (Ex. 1001), Fig. 6*

# The '256 Patent

1. A system comprising:  
an athletic performance module configured to receive athletic activity data from a wirelessly-connected sensor worn on an appendage of a first user, wherein the first user is performing athletic activities at a first location; and

a challenge module configured to:

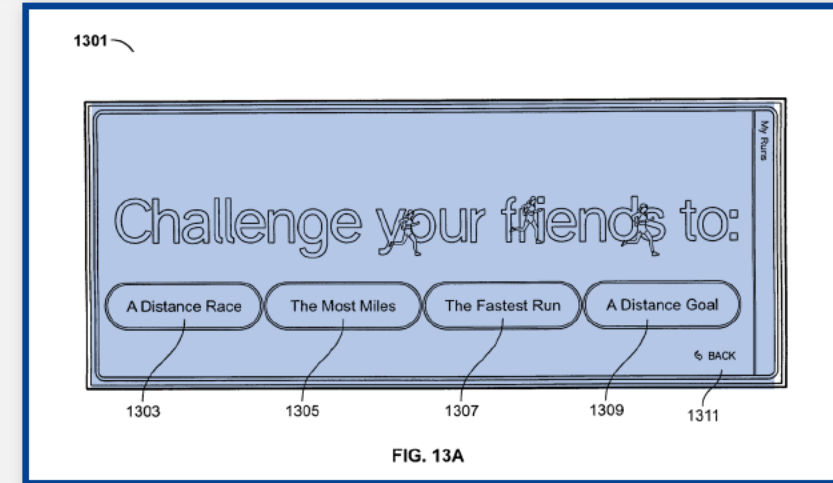
receive information specifying a challenge, wherein the challenge includes a competition between the first user, and a second user performing athletic activities at a second location, different to, and remote from, the first location;

determine, from the received athletic activity data, a first amount of athletic activity performed by the first user; receive data from a second sensor indicating a second amount of athletic activity performed by the second user;

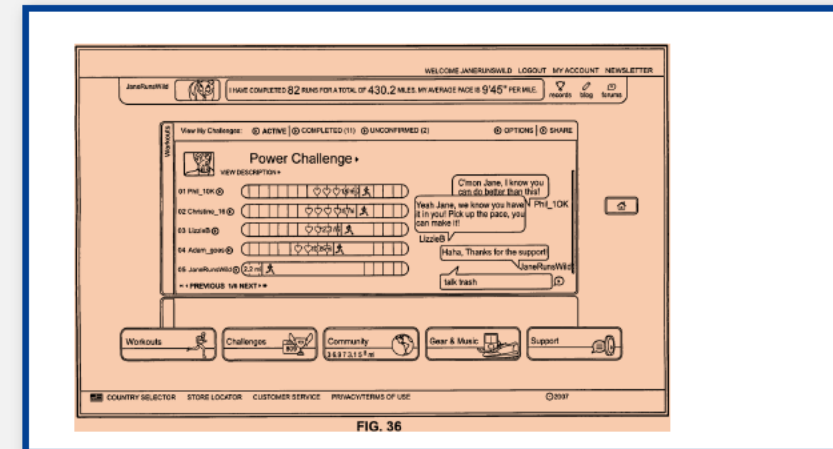
determine whether the challenge has been met by the first user based on a comparison of the first amount of athletic activity performed by the first user and a second amount of athletic activity performed by the second user; and

continuously generate and simultaneously communicate in real-time to the first user at the first location and the second user at the second location, an interface indicating whether the challenge has been met.

*'256 Patent (Ex. 1001), Claim 1*



*'256 Patent (Ex. 1001), Fig. 13A*



*'256 Patent (Ex. 1001), Fig. 36*



# The '256 Patent

11. A method comprising:  
receiving a prompt inviting a first user to participate in a challenge, wherein the challenge includes a competition between the first user performing athletic activities at a first location and a second user performing athletic activities at a second location different to, and remote from, the first location;  
determining an amount of athletic activity performed by the first user based on sensor data received from a sensor worn on an appendage of the first user; and  
receiving data from a second sensor indicative of an amount of athletic activity performed by the second user;  
determining whether the challenge has been met by the first user based on a comparison of the amount of athletic activity performed using the first user to the amount of athletic activity performed by the second user; and  
continuously generating and simultaneously communicating in real-time to the first user at the first location and the second user at the second location, an interface indicating whether the challenge has been met.

*'256 Patent (Ex. 1001), Claim 11*

# Roadmap

- Claim Construction
- Arrasvuori & Arrasvuori + Ellis (Grounds 2-4)
- Tagliabue (Ground 1)
- Watterson + Arrasvuori (Ground 5)

# **Claim Construction**

# Claim Construction: Two Limitations at Issue

## Limitation 1[G]

1. A system comprising:  
an athletic performance module configured to receive athletic activity data from a wirelessly-connected sensor worn on an appendage of a first user, wherein the first user is performing athletic activities at a first location; and  
a challenge module configured to:  
receive information specifying a challenge, wherein the challenge includes a competition between the first user, and a second user performing athletic activities at a second location, different to, and remote from, the first location;  
determine, from the received athletic activity data, a first amount of athletic activity performed by the first user;  
receive data from a second sensor indicating a second amount of athletic activity performed by the second user;  
determine whether the challenge has been met by the first user based on a comparison of the first amount of athletic activity performed by the first user and a second amount of athletic activity performed by the second user; and  
continuously generate and simultaneously communicate in real-time to the first user at the first location and the second user at the second location, an interface indicating whether the challenge has been met.

*'256 Patent (Ex. 1001), Claim 1*

## Common Unit

7. The system of claim 1, wherein the challenge is defined in terms of a **common unit** used for multiple types of athletic activities.

*'256 Patent (Ex. 1001), Claim 7*

15. The method of claim 11, wherein the challenge is defined in terms of a **common unit** used for multiple types of athletic activities.

*'256 Patent (Ex. 1001), Claim 15*

# The Board's Questions On Limitation 1[G]

**Question 1:** “what specifically is generated and communicated in real-time”

**Question 2:** “whether ‘indicating whether the challenge has been met’ requires anything more than a mere yes/no-type indication (e.g., whether the system also must indicate a real-time *comparative* progress, ranking, or positioning amongst users)”

**Question 3:** “if a party contends that the scope of this limitation and claim as a whole includes first and second users performing athletic tasks *at different times*, what ‘in real-time’ in this limitation means in that context”

**Question 4:** “what it means to ‘continuously generate’ and to ‘simultaneously communicate’ ‘an interface’ to first and second users, particularly where such users are performing athletic tasks *at different times*”

DI (Paper 11), 16

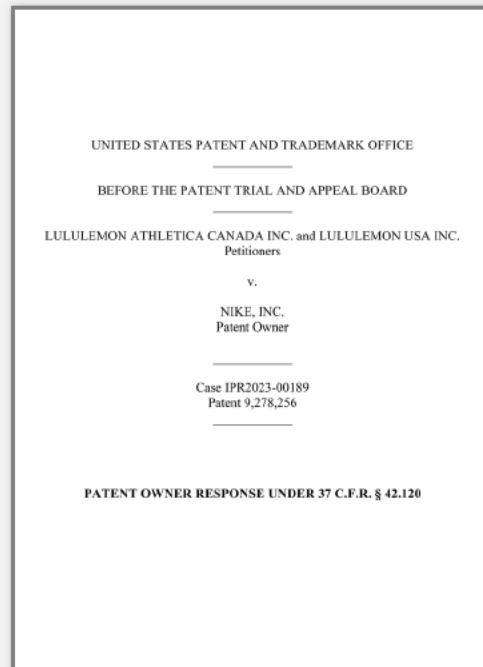
# The Board's Questions On Limitation 1[G]

#	Question	Patent Owner Response	Petitioner Response
1	<b>What</b> is generated / communicated?	"an interface"	Petitioner does not dispute "an interface" is generated / communicated
2	Do claims require indicating <b>comparative progress</b> ?	No	Petitioner does not dispute "yes"/"no" is sufficient
3	Meaning of "real time" if athletes compete <b>at different times</b> ?	"Generating the interface in real-time means that current updates regarding user performance are provided to the interface"	Petitioner does not dispute claims cover competing at different times, nor that "real time" refers to "current" update, i.e., sending with low latency
4	Meaning of "continuously generate" and "simultaneously communicate" where users compete <b>at different times</b> ?	"continuously generate" = "without perceived interruption"; "simultaneously communicate" = "at the same time"	Petitioner does not dispute substituting terms for synonyms, nor that claims cover providing interface even while one user takes a break

POR (Paper 18), 29-36; Reply (Paper 22), 3



# Limitation 1[G]: Patent Owner's Construction



“simultaneously  
communicate”

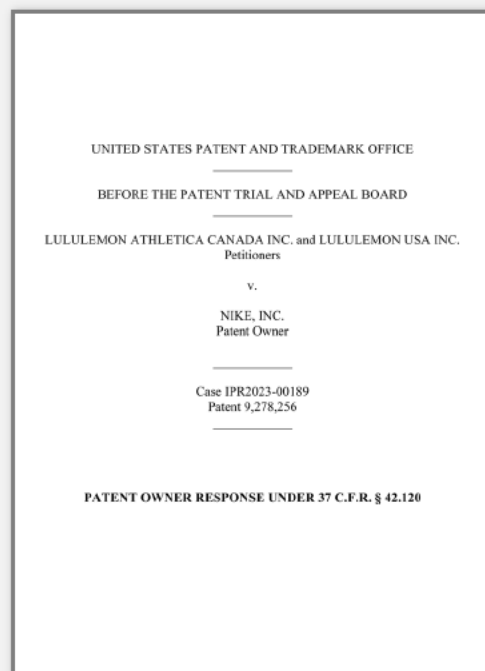
“continuously  
generate”

“in real time”

respect to limitations 1[G]/11[E], Nike submits that the ordinary and customary meaning of “continuously generat[e] and simultaneously communicat[e] in real-time to the first user at the first location and the second user at the second location, an interface indicating whether the challenge has been met” is “generating and communicating to the first user at the first location and the second user at the second location, at the same time and without interruption or perceived delay an interface indicating whether the challenge has been met.” Toney-Bolger Decl. (Ex. 2005),

*POR (Paper 18), 28*

# Limitation 1[G]: Patent Owner's Construction



“simultaneously  
communicate”

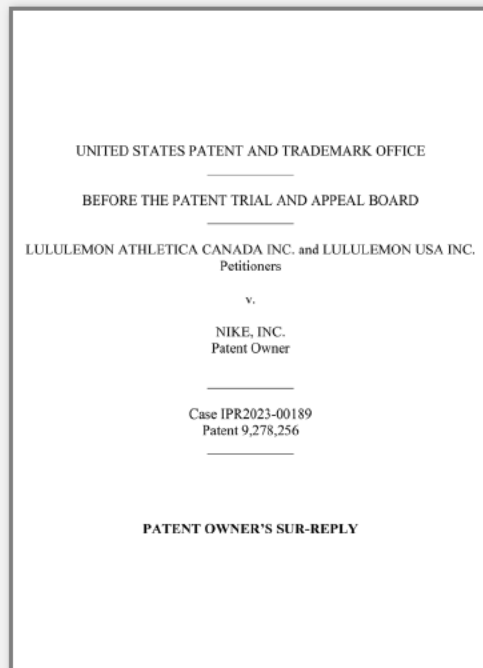
“continuously  
generate”

“in real time”

respect to limitations 1[G]/11[E], Nike submits that the ordinary and customary meaning of “continuously generat[e] and simultaneously communicat[e] in real-time to the first user at the first location and the second user at the second location, an interface indicating whether the challenge has been met” is “generating and communicating to the first user at the first location and the second user at the second location, at the same time and without interruption or perceived delay an interface indicating whether the challenge has been met.” Toney-Bolger Decl. (Ex. 2005),

*POR (Paper 18), 28*

# Patent Owner's New Construction of Limitation 1[G]



None of these disclosures reflect an interface that is generated “without perceived interruption,” i.e., at intervals occurring so frequently they are imperceivable. Response, 47; Ex. 2005, ¶80. The specification of the ’256 patent confirms that “continuous generation” of the interface in “real-time” occurs “without perceived interruption” and “without perceived delay.” For example, the ’256 patent discloses “[c]onstant updates” received by portable device 203 from the athletic performance tracking site. ’256 patent, 31:6–10, 31:44–46; Response, 35. The portable device that communicates with the user interface to “display athletic performance data in real-time” is able to display challenge data from all participants “based on receipt of these constant updates.” *Id.*, 30:8–31:48; Ex. 2005, ¶49.

*Sur-Reply (Paper 26), 5-6*

# Patent Owner's New Construction of Limitation 1[G]

## Language of Claim 1

17600027825082

(12) United States Patent  
Tchao et al.

(16) Patent No.: US 9,278,256 B2  
(45) Date of Patent: Mar. 8, 2016

(54) INTERACTIVE ATHLETIC EQUIPMENT SYSTEM

(71) Applicant: NIKE, Inc., Beaverton, OR (US)

(72) Inventors: Michael Tchao, Portland, OR (US); Christopher A. Robinson, Lake Chicago, OR (US); Jesse Voss, Portland, OR (US)

(73) Assignee: Nike, Inc., Beaverton, OR (US)

(\*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 9 days.

(21) Appl. No.: 14/726,828

(22) Filed: May 28, 2015

(65) Prior Publication Data  
US 2015/0228751 A1 Sep. 17, 2015

(67) Related U.S. Application Data  
Continuation of application No. 14/571,674, filed on Oct. 23, 2014, which is a continuation of application No. 14/082,103, filed on Nov. 18, 2013, now Pat. No. 8,502,439, which is a continuation of application No. 13/734,781, filed on Dec. 22, 2011, now Pat. No. 8,282,777, which is a continuation of application No. 12/907,685, filed on Mar. 5, 2010, now Pat. No. 8,088,044.

(68) Provisional application No. 61/095,355, filed on Mar. 5, 2009.

(51) Int. Cl.  
A63B 7/00 (2006.01)  
A63B 24/00 (2006.01)  
A63B 77/00 (2006.01)  
G06F 09/00 (2006.01)  
G06F 01/00 (2006.01)  
G06K 00/00 (2006.01)

(52) U.S. Cl.  
A63B 24/0082 (2013.01); A63B 24/0096 (2013.01)

(56) References Cited  
U.S. PATENT DOCUMENTS  
4,495,048 A 11/85 Montanari et al.  
4,656,378 A 11/87 Van Nieuwen  
FOREIGN PATENT DOCUMENTS  
CN 1217101 A 10/99  
CN 101307801 A 2/08  
OTHER PUBLICATIONS  
International Technology Report on Patentability for International Application No. PCT/US2009/010077, dated Sep. 16, 2009, 7 pages.  
Primary Examiner — Chen/Quang  
(74) Attorney, Agent, or Firm — Banner & Witcoff, Ltd.  
(57) ABSTRACT  
Systems and techniques for the collection and display of athletic information. Athletic data relating to a single person or group of people is collected at a central location, and subsequently displayed at a second remote location so that the person or people can review and analyze their performance. In addition, athletic data for multiple persons can be collected at a central location, and subsequently displayed at a user or a second remote location, so that the user can compare his or her athletic activities to others.

29 Claims, 50 Drawing Sheets

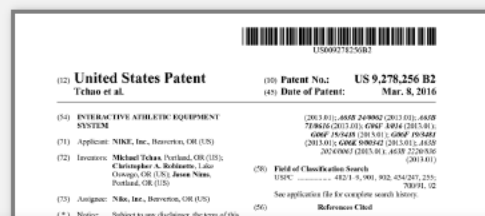
Multi-touch athletic device and system use interface Exhibit 1001 Page 1

continuously generate and simultaneously communicate in real-time to the first user at the first location and the second user at the second location, an interface indicating whether the challenge has been met.

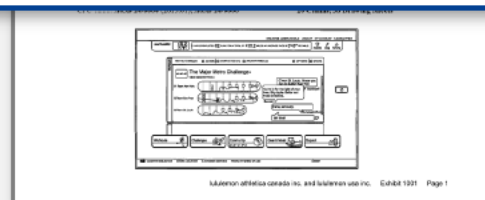
'256 Patent (Ex. 1001), claim 1 (Limitation 1[G])

# Patent Owner's New Construction of Limitation 1[G]

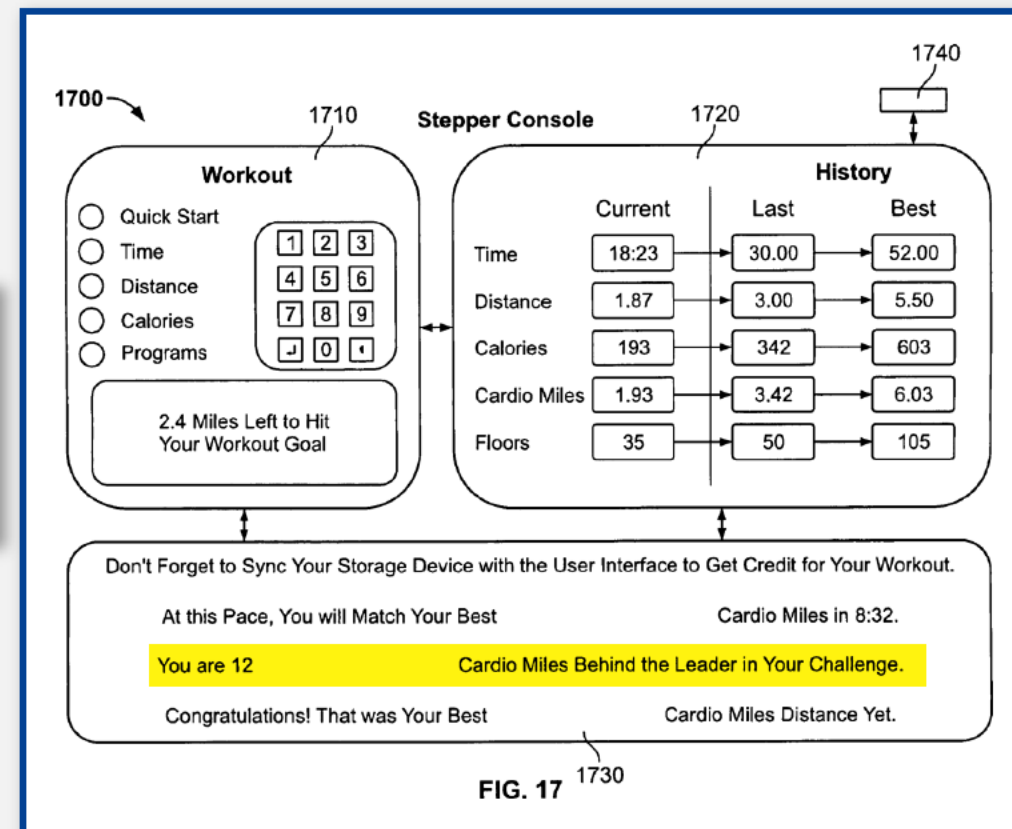
## '256 Patent Specification



athletic performance tracking site. **Constant updates** can be provided from the athletic performance tracking site to the athletic equipment and portable device 203. Communication



'256 Patent (Ex. 1001), 31:44-46



'256 Patent (Ex. 1001), Fig. 17

# Patent Owner's New Construction of Limitation 1[G]

## Testimony by Dr. Lynch

(Aug. 7, 2023, Toney-Bolger Decl.), ¶ 80.) An interface generated once per mile would be generated “continuously,” or without interruption according to Nike’s construction, provided it was designed to update that way. Also, I see that Dr.

*Lynch Rep. Decl.*  
(Ex. 1017), ¶ 44

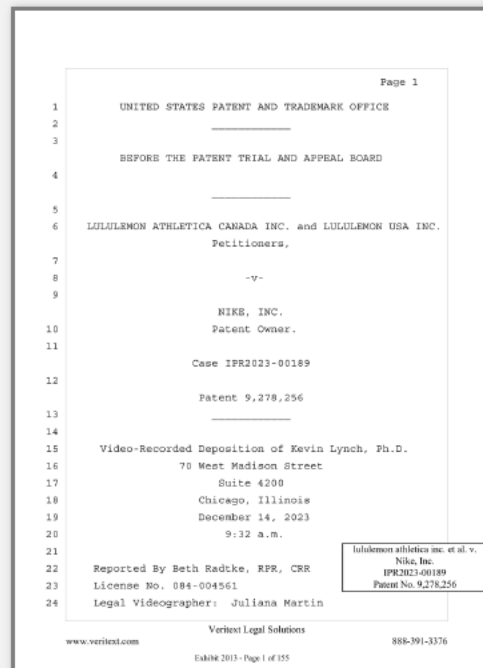
remain unchanged for substantial periods of time. As an example, if an interface displays the distance run by a runner in 0.1 mile increments, the display would remain unchanged for 36 seconds if the runner runs at a six-minute-mile pace. For this example, the appearance of the interface is identical whether it is generated and communicated at a high constant frequency, or whether it is updated only when the runner has traveled 0.1 mile since the last update. In either case, there would be no interruption, and no interruption would be perceived by a user.

*Lynch Rep. Decl.*  
(Ex. 1017), ¶ 10



# Patent Owner's New Construction of Limitation 1[G]

## Testimony by Dr. Lynch



**Q.** Would providing constant updates require updates to be provided at some time interval?

**A.** No.

**Q.** What's another way that a system could provide constant updates?

**A.** For instance, updating when there's something to be updated.

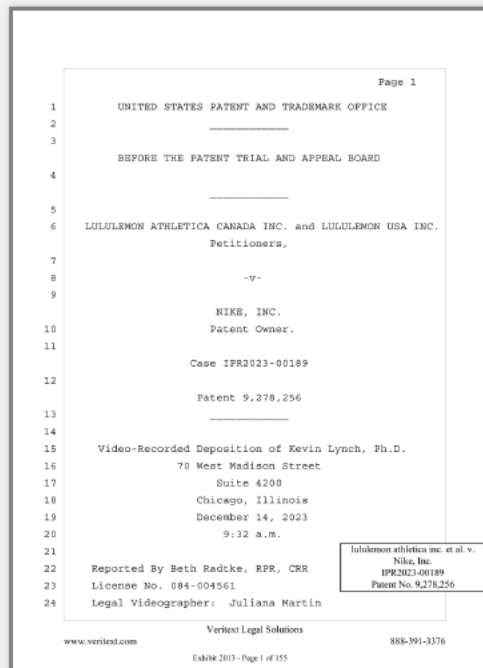
**Q.** That would be a constant update, in your opinion?

**A.** Yes. There's nothing to update, then don't update until there's something new to say.

*12/14/2023 Lynch Tr. (Ex. 2013), 67:24-68:13 (objection omitted)*

# Patent Owner's New Construction of Limitation 1[G]

## Testimony by Dr. Lynch



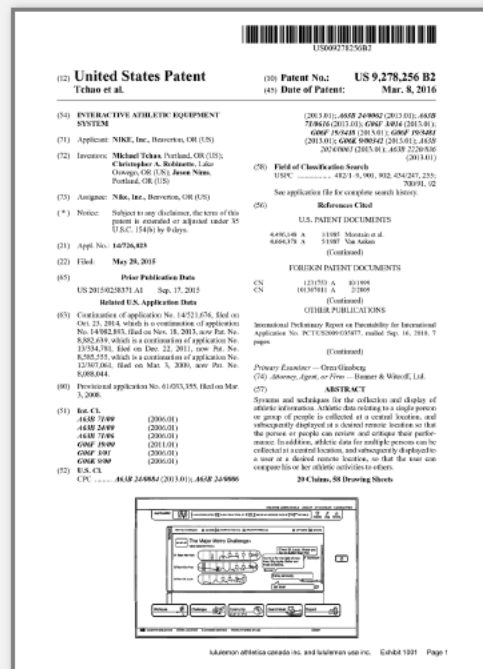
- Q.** What's an example of an interface that's working properly and is not being continuously generated?
- A.** I could imagine an interface that displays buttons that I push, and it never changes its display, but the keystrokes that I apply are recorded.

*12/14/2023 Lynch Tr. (Ex. 2013), 80:2-8*

# Common Unit: The Parties' Constructions

	Petitioner	Patent Owner
Construction	“a unit ‘used for multiple types of athletic activities’” (Reply (Paper 22), 4)	“a representation of athletic performance data including types of data not normally expressed in that particular unit” (POR (Paper 18), 40, 63)
Illustrative Example	“[M]iles are a common unit because they can be used to measure running, swimming, and other activities” (Reply (Paper 22), 4)	“Nike contends that ‘miles’ is a ‘common unit’ only when used to represent at least one activity ‘not normally expressed in that particular unit’” (Sur-reply (Paper 26), 6)

## Common Unit: Ordinary & Customary Meaning



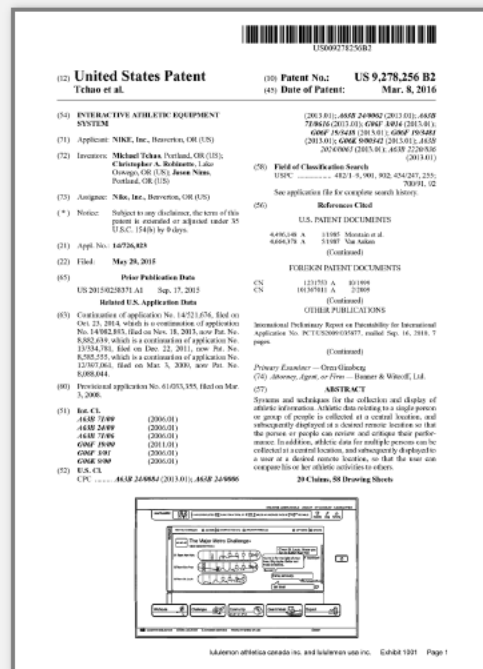
7. The system of claim 1, wherein the challenge is defined in terms of a common unit used for multiple types of athletic activities.

'256 Patent (Ex. 1001), Claim 7

15. The method of claim 11, wherein the challenge is defined in terms of a common unit used for multiple types of athletic activities.

'256 Patent (Ex. 1001), Claim 15

## Common Unit: Ordinary & Customary Meaning



Once the athletic performance of the user or athlete has been converted to a common unit, for example miles run, they may compare their athletic performance with personal goals, against athletic performance benchmarks, and/or against historical athletic performance. For example, a user or athlete

'256 Patent (Ex. 1001), 33:10-14

# Common Unit: Ordinary & Customary Meaning

## Patent Owner's Sur-Reply

17000027825082

(12) **United States Patent**  
Tchao et al.

(16) **Patent No.:** **US 9,278,256 B2**  
(45) **Date of Patent:** **Mar. 8, 2016**

(54) **INTERACTIVE ATHLETIC EQUIPMENT SYSTEM**

(71) **Applicant:** NIKE, Inc., Beaverton, OR (US)

(72) **Inventors:** Michael Tchao, Portland, OR (US); Christopher A. Robinson, Lake Chicago, OR (US); Jesse Vines, Portland, OR (US)

(73) **Assignee:** Nike, Inc., Beaverton, OR (US)

(\*) **Notice:** Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 9 days.

(21) **App. No.:** 14/726,425

(22) **Filed:** May 28, 2015

(85) **Priority Publication Data**  
US 2015/0228751 A1 Sep. 17, 2015

(86) **Related U.S. Application Data**  
Continuation of application No. 14/571,674, filed on Oct. 23, 2014, which is a continuation of application No. 14/082,103, filed on Nov. 18, 2013, now Pat. No. 8,502,439, which is a continuation of application No. 13/734,781, filed on Nov. 22, 2011, now Pat. No. 8,262,777, which is a continuation of application No. 12/767,682, filed on Mar. 5, 2009, now Pat. No. 8,088,044.

(87) **Provisional application No. 61/095,355, filed on Mar. 5, 2009.**

(88) **Int. Cl.:**  
A63B 7/00 (2006.01)  
A63B 24/00 (2006.01)  
A63B 7/00 (2006.01)  
G06F 09/00 (2006.01)  
G06F 09/00 (2006.01)  
G06F 09/00 (2006.01)  
G06F 09/00 (2006.01)

(89) **U.S. Cl.:**  
CPC ..... A63B 24/0082 (2013.01); A63B 24/0060

(57) **Abstract**  
Systems and techniques for the collection and display of athletic information. Athletic data relating to a single person or group of people is collected at a central location, and subsequently displayed at a distant remote location so that the person or people can review and analyze their performance. In addition, athletic data for multiple persons can be collected at a central location, and subsequently displayed at a user or a distant remote location, so that the user can compare his or her athletic activities to others.

29 Claims, 50 Drawing Sheets

Mulderon athletic canada inc. and mulderon usa inc. Exhibit 101 Page 1

already measured in units of distance, such as miles. And contrary to what lululemon states, Nike does not argue lexicography or disclaimer for this term, and its proposed construction does not exclude any embodiments from the '256 patent specification.

*Sur-Reply (Paper 26), 7*



# **Arrasvuori & Ellis (Grounds 2-4)**

# Arrasvuori: Five Limitations Are in Dispute

1. A system comprising:  
an athletic performance module configured to receive athletic activity data from **a wirelessly-connected sensor worn on an appendage of a first user**, wherein the first user is performing athletic activities at a first location; and  
a challenge module configured to:  
receive information specifying a challenge, wherein the challenge includes a competition between the first user, and a second user performing athletic activities at a second location, different to, and remote from, the first location;  
determine, from the received athletic activity data, a first amount of athletic activity performed by the first user;  
receive data from a second sensor indicating a second amount of athletic activity performed by the second user;  
determine whether the challenge has been met by the first user based on a comparison of the first amount of athletic activity performed by the first user and a second amount of athletic activity performed by the second user; and  
**continuously generate and simultaneously communicate in real-time to the first user at the first location and the second user at the second location, an interface indicating whether the challenge has been met.**

*'256 Patent (Ex. 1001), Claim 1*

2. The system of claim 1, **wherein the challenge is received from the second user.**

*'256 Patent (Ex. 1001), Claim 2*

12. The method of claim 11, wherein the sensor worn on the appendage of the first user comprises **a location-determining sensor.**

*'256 Patent (Ex. 1001), Claim 12*

13. The method of claim 11, wherein the sensor worn on the appendage of the first user comprises **an accelerometer.**

*'256 Patent (Ex. 1001), Claim 13*



# Arrasvuori: “continuously generat[e/ing]” (Claims 1, 11)

## The Leaderboard Embodiment Is Continuously Generated



Based on the record before us, it does not appear credible that the skilled artisan would have understood Arrasvuori to disclose “leaderboards” as being displayed (or generated) only periodically, rather than continuously—doing so only periodically would seemingly defeat the very purpose of using a “leaderboard” such as used at a golf tournament, NASCAR race, or other sporting/athletic event, where current scores are presented as the event progresses, not merely every so often.

*DI (Paper 11), 28*

# Arrasvuori: “continuously generat[e/ing]” (Claims 1, 11)

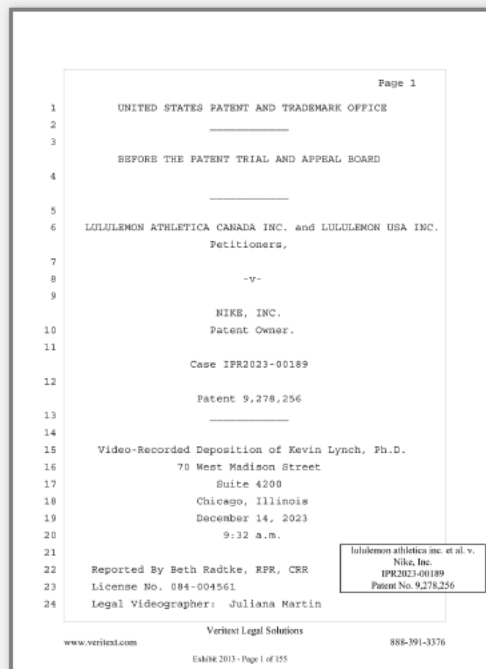
## The Leaderboard Embodiment Is Continuously Generated

→ Dr. Lynch **confirmed** the Board’s finding:

- “the word ‘leaderboard’ itself refers to a continuously generated interface” (Lynch Rep. Decl. (Ex. 1017), ¶ 38)
- “if the leaderboards were generated with interruption[,] the leaderboards would not ‘correspond[]’ to the users’ progress ‘during’ the real-world fitness task.” (Lynch Rep. Decl. (Ex. 1017), ¶ 39)
- Arrasvuori’s subject matter (video games) precludes an interface “subject to interruptions or stutter.” (Lynch Rep. Decl. (Ex. 1017), ¶ 40)

# Arrasvuori: “continuously generat[e/ing]” (Claims 1, 11)

## Dr. Lynch's Computer Networking Expertise



**Q.** Dr. Lynch, are you an expert in computer networks?

**A.** Yes.

**Q.** And do you have expertise in how devices on computer networks monitor and provide feedback?

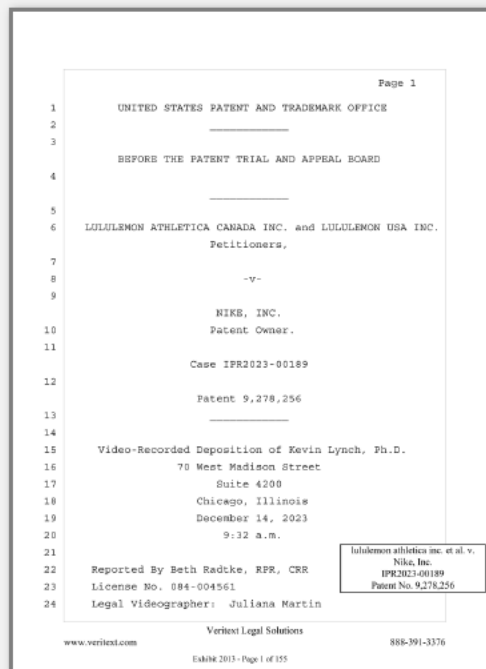
**A.** Yes.

*12/14/2023 Lynch Tr. (Ex. 2013), 118:15-20*



# Arrasvuori: “continuously generat[e/ing]” (Claims 1, 11)

## Dr. Lynch’s Computer Networking Expertise

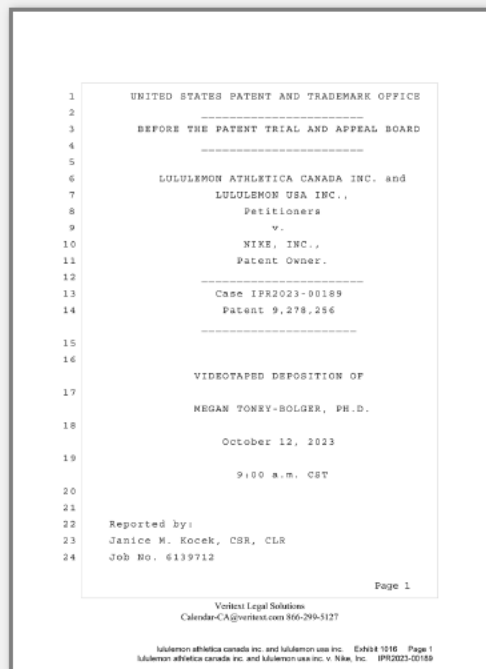


- Q.** Aside from those experience -- experiments in your lab that you described, have you written any other code for video games?
- A.** Yes. Starting in sixth grade when I got my first computer, what I usually programmed it to do was to play video games. That's how I learned to code, by creating my own video games.

*12/14/2023 Lynch Tr. (Ex. 2013), 19:19-20:1*

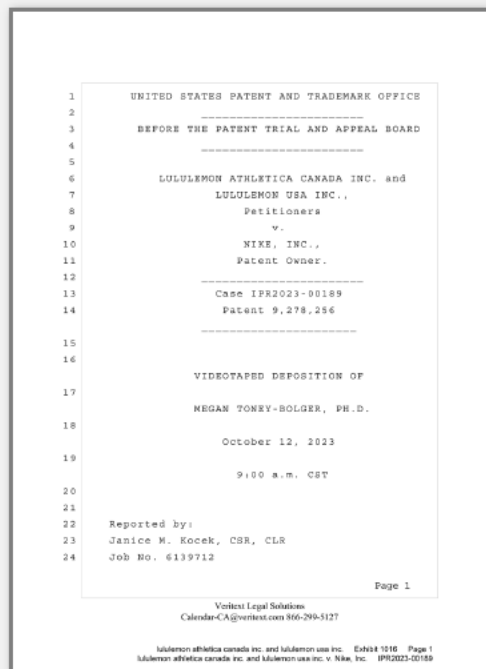
# Arrasvuori: “continuously generat[e/ing]” (Claims 1, 11)

## Dr. Toney-Bolger’s Lack of Computer Networking Expertise



# Arrasvuori: “continuously generat[e/ing]” (Claims 1, 11)

## Dr. Toney-Bolger’s Lack of Computer Networking Expertise



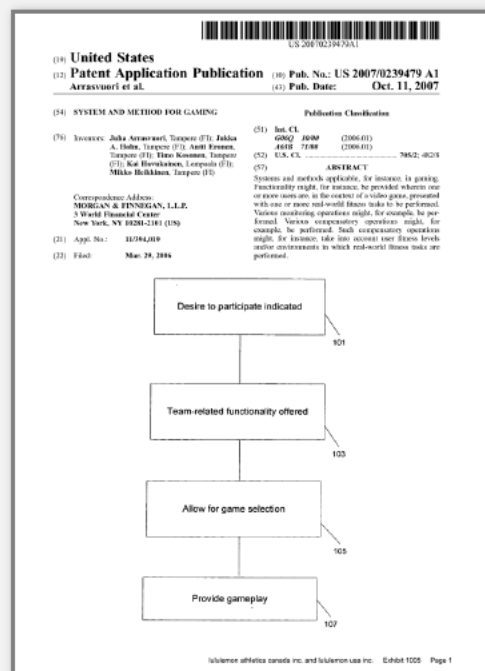
**Q.** Are you fluent in any coding languages?

**A.** I used to be fluent in MATLAB. I can't say that I've used it very recently. May be rusty.

*10/12/2023 Toney-Bolger Tr. (Ex. 1016), 89:22-90:2*

# Arrasvuori: “continuously generat[e/ing]” (Claims 1, 11)

## The Graphical Representation Embodiment Is Continuously Generated

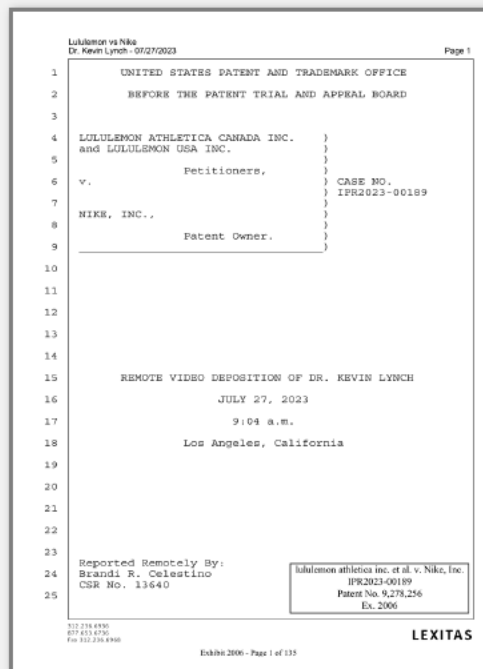


[0053] For example, in the case where a stage of a game requires that users reach a game-world landmark by performing a real-world fitness task of running and/or jogging, display might provide a graphical representation for each user performing the task and show the graphical representations as progressing along a game-world route terminating in the game-world landmark. A user viewing such display might, for instance, be able to determine how close each participating user was to the goal and/or how well each such user was competing relative to other such users.

Arrasvuori (Ex. 1005), ¶ 53

# Arrasvuori: “continuously generat[e/ing]” (Claims 1, 11)

## The Graphical Representation Embodiment Is Continuously Generated



**Q.** What would satisfy "continuous generation" in Arrasvuori's context?

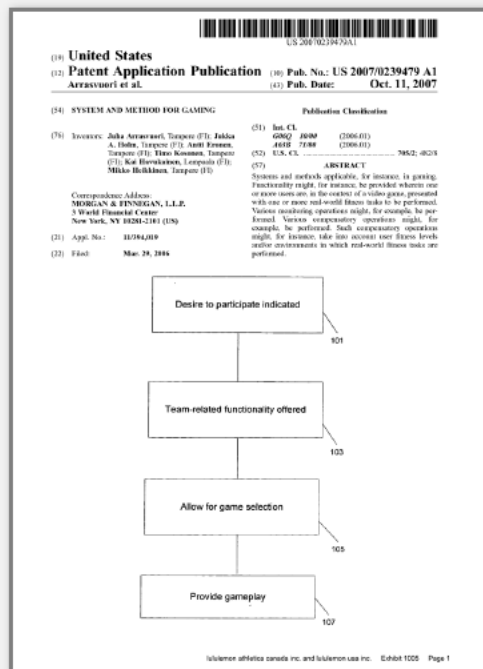
**A.** . . . The point here is that, as an example, multiple competitors are competing in a running or jogging race. They are seeing in realtime a graphical representation showing how each of the competitors is progressing along a game world route, and that terminates in a game world landmark. So by watching this display, I can see how well I'm doing compared to others.

So this has to be continuously generated, the interface. It has to be simultaneously communicated.

7/27/2023 Lynch Tr. (Ex. 2006), 55:14-57:9

# Arrasvuori: “worn on an appendage” (Claims 1, 11)

## Arrasvuori’s Computerized Watch Is Worn on an Appendage



computers) (step 201). Such monitoring equipment might, for instance, be integrated into and/or in communication with wireless nodes and/or other computers of users, and/or be attached to bodies of users. Users might, in various embodiments, wear their wireless nodes and/or other computers. Communication between monitoring equipment and

Arrasvuori  
(Ex. 1005), ¶ 39

tance measuring hardware might be employed). It is noted that, in various embodiments, employed monitoring equipment might include one or more sensors. It is further noted that, in various embodiments, data so monitored and/or ascertained might, for instance, be stored (e.g., at a server) and/or mapped to video game parameters.

Arrasvuori  
(Ex. 1005), ¶ 40

The phrases “computer”, “general purpose computer”, and the like, as used herein, refer but are not limited to a smart card, a media device, a personal computer, an engineering workstation, a PC, a Macintosh, a PDA, a portable computer, a computerized watch, a wired or wireless terminal, phone,

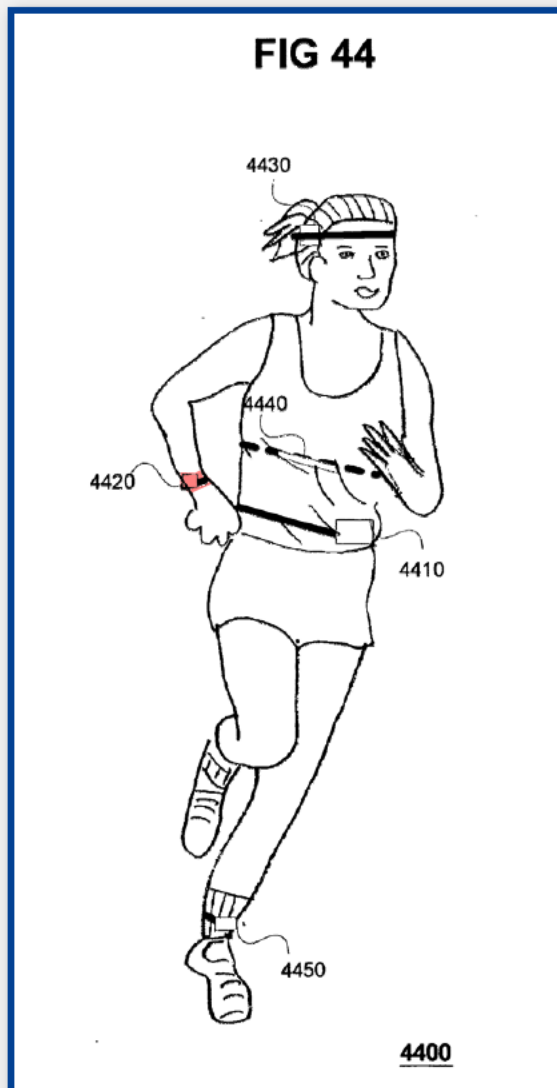
Arrasvuori  
(Ex. 1005), ¶ 90



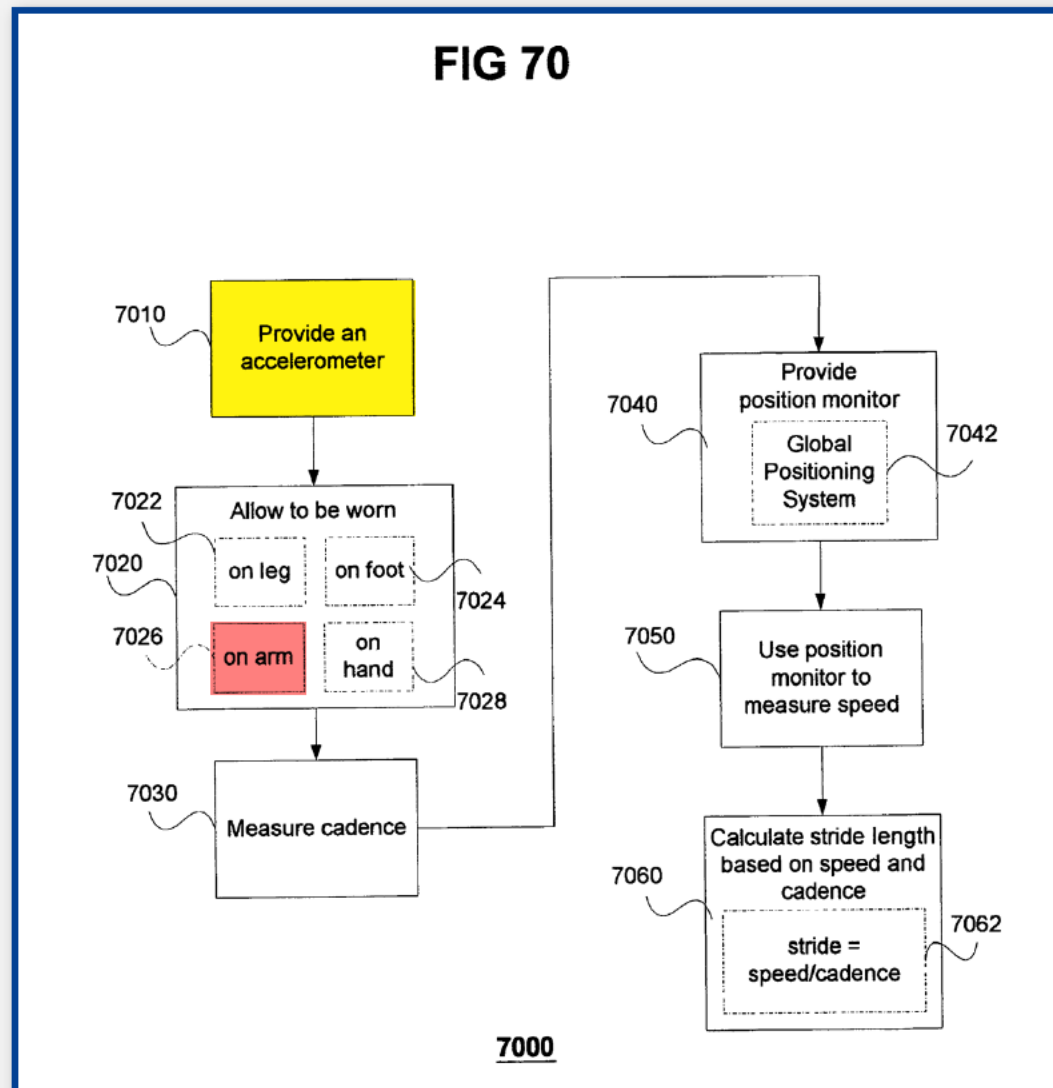




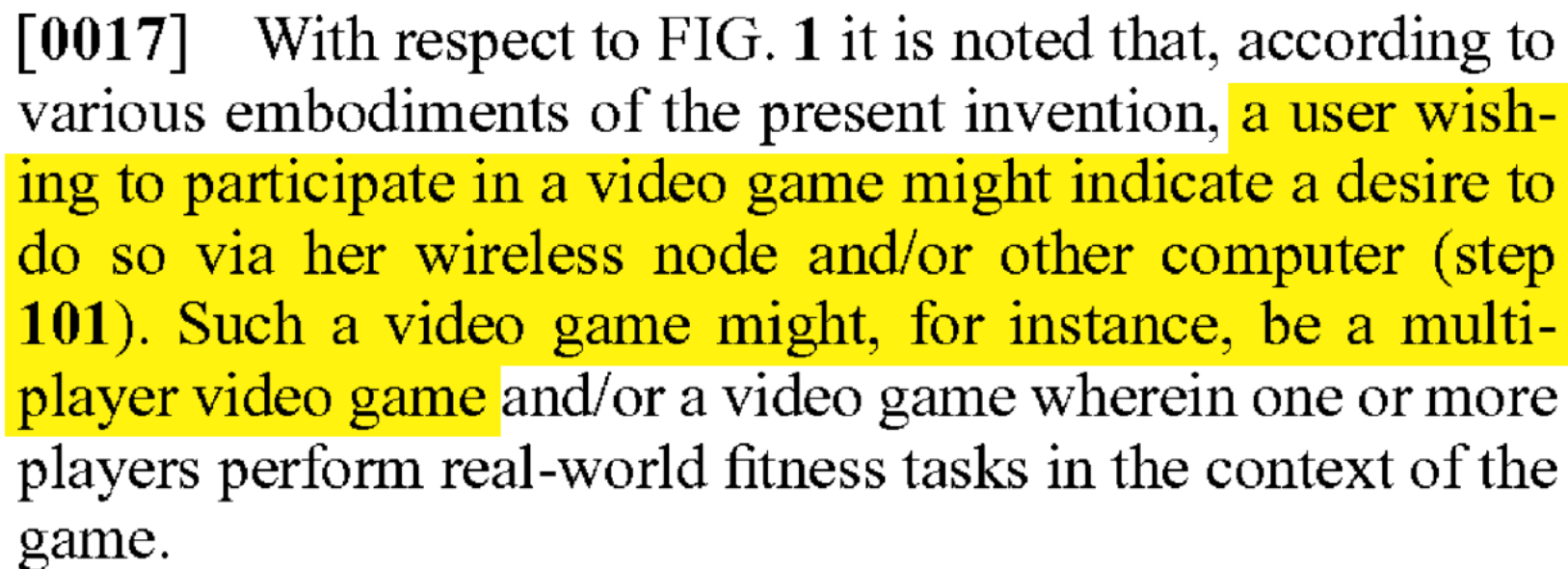
# Arrasvuori + Ellis: “an accelerometer” (Claim 13)



Ellis (Ex. 1007),  
Figs. 44, 70



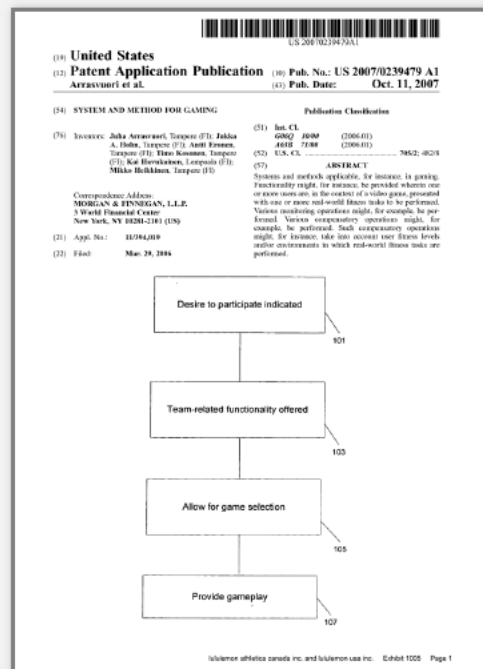
## Arrasvuori's Servers Receive Challenges From Multiple Users



*Arrasvuori (Ex. 1005), ¶ 17*

# Arrasvuori: “wherein the challenge is received from the second user” (Claims 2, 3, 14)

## Arrasvuori’s Servers Receive Challenges From Multiple Users



performed the fitness tasks. To illustrate by way of example, some users might choose to do the swimming task first while other users might choose to do the cycling task first. Users might, for example, be able to indicate (e.g., via button press and/or via GUIs and/or other interfaces provided by their wireless nodes) moving from one fitness task to another. Information regarding such indication might, in various embodiments, be communicated among wireless nodes and/or other computers. For example, such information regarding such an indication might be communicated from a user's wireless node and/or other computer to a server.

Arrasvuori (Ex. 1005), ¶ 36

# **Tagliabue (Ground 1)**

# Tagliabue: Two Limitations Are in Dispute

1. A system comprising:

an athletic performance module configured to receive athletic activity data from a wirelessly-connected sensor worn on an appendage of a first user, wherein the first user is performing athletic activities at a first location; and

a challenge module configured to:

receive information specifying a challenge, wherein the challenge includes a competition between the first user, and a second user performing athletic activities at a second location, different to, and remote from, the first location;

determine, from the received athletic activity data, a first amount of athletic activity performed by the first user; receive data from a second sensor indicating a second amount of athletic activity performed by the second user;

determine whether the challenge has been met by the first user based on a comparison of the first amount of athletic activity performed by the first user and a second amount of athletic activity performed by the second user; and

1

continuously generate and simultaneously communicate in real-time to the first user at the first location and the second user at the second location, an interface indicating whether the challenge has been met.

*'256 Patent (Ex. 1001), Claim 1*

2

7. The system of claim 1, wherein the challenge is defined in terms of a **common unit** used for multiple types of athletic activities.

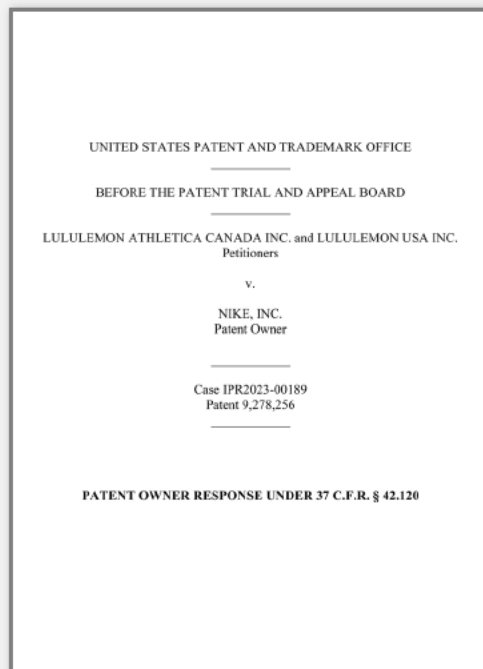
*'256 Patent (Ex. 1001), Claim 7*

15. The method of claim 11, wherein the challenge is defined in terms of a **common unit** used for multiple types of athletic activities.

*'256 Patent (Ex. 1001), Claim 15*

# Tagliabue: Limitation 1[G]

## Patent Owner's Argument



Nike does not dispute that Tagliabue and the '256 patent share some word-for-word disclosure. However, disclosure unique to the '256 patent, and not in Tagliabue, provides the written description support for limitations 1[G]/11[E]. See Ex. 2005, ¶¶55, 69. Unlike the '256 patent, Tagliabue omits any recitation of “real-time” display of performance. Compare Ex. 1004, with '256 patent, 3:30–37, 30:39–44; Ex. 2005, ¶69. And unlike the '256 patent, Tagliabue also fails to include any teachings related to “constantly” or “continuously” generating a user interface. Compare Ex. 1004, with '256 patent, 31:41–46; Ex. 2005, ¶69.

POR (Paper 18), 38



# Tagliabue: Limitation 1[G]

## Patent Owner's Expert

**Q.** Going back to the first sentence of -- of the block quote from the patent in paragraph 42 of your declaration, is **an interface displaying** in a group or challenge setting multiple avatars to illustrate the progress of each user in the group or challenge an example of an interface that is continuously generated and simultaneously communicated in realtime?

**A.** Yes.

*10/12/2023 Toney-Bolger Tr. (Ex. 1016), 19:10-19*

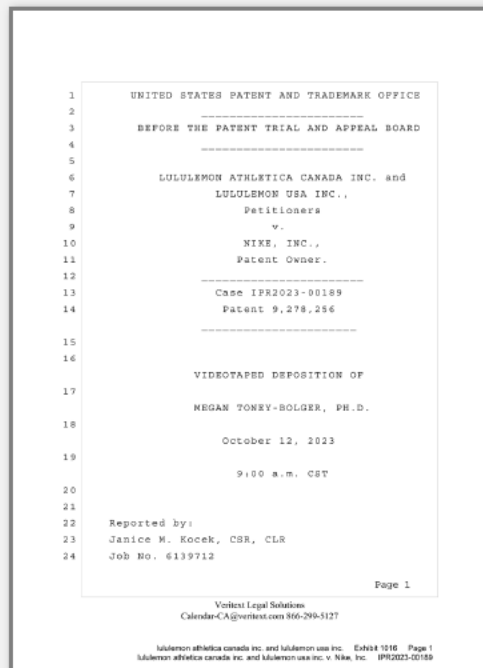
## Tagliabue

ration device 601, etc. For example, the athletic data display configuration device 601 may configure and provide **a user interface showing each participant's progress** toward the goal of the challenge using, e.g., bar graphs for each participant of the type previously described with regard to monitoring individual goals.

*Tagliabue (Ex. 1004), 22:60-65*



# Tagliabue: Limitation 1[G]



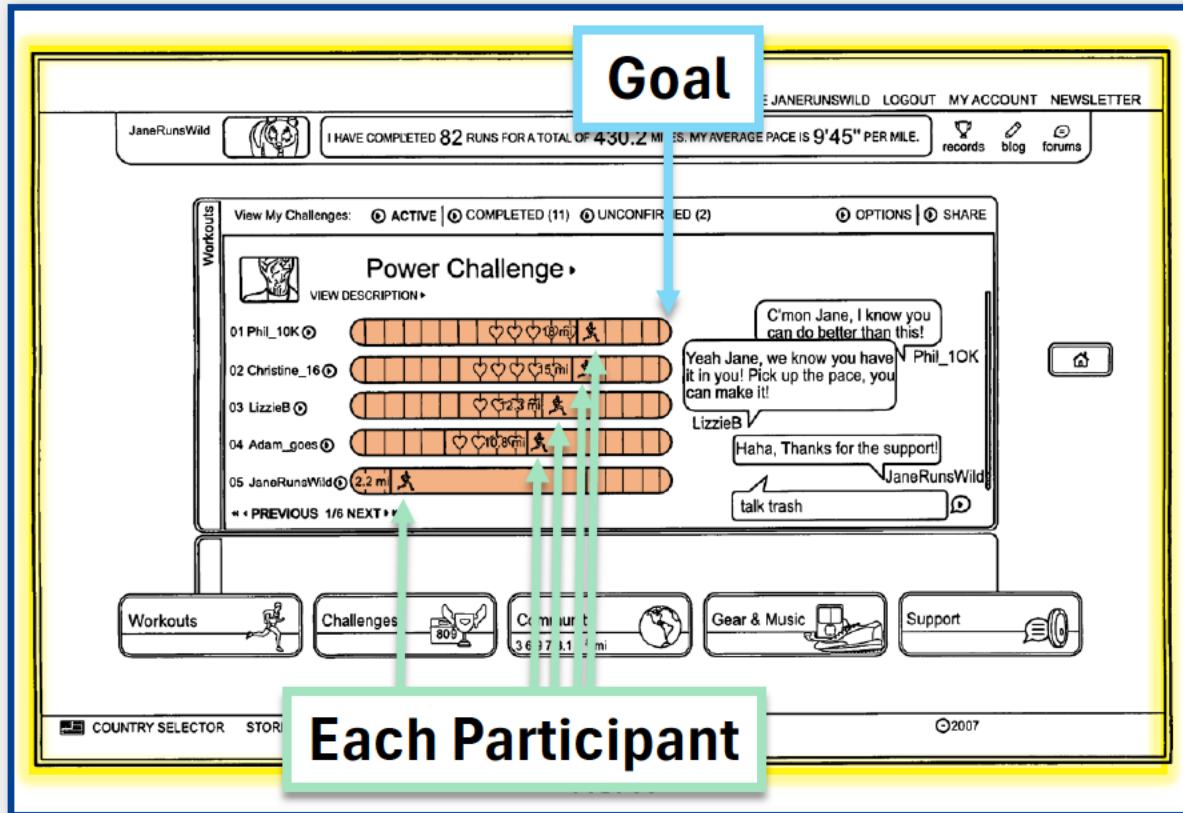
**Q.** Is **Figure 36** an example of an interface that is continuously generated and simultaneously communicated in realtime?

**A.** Yes.

*10/12/2024 Toney-Bolger Tr. (Ex. 1016), 14:5-8*

# Tagliabue: Limitation 1[G]

Figure 36



'256 Patent (Ex. 1001), Fig. 36

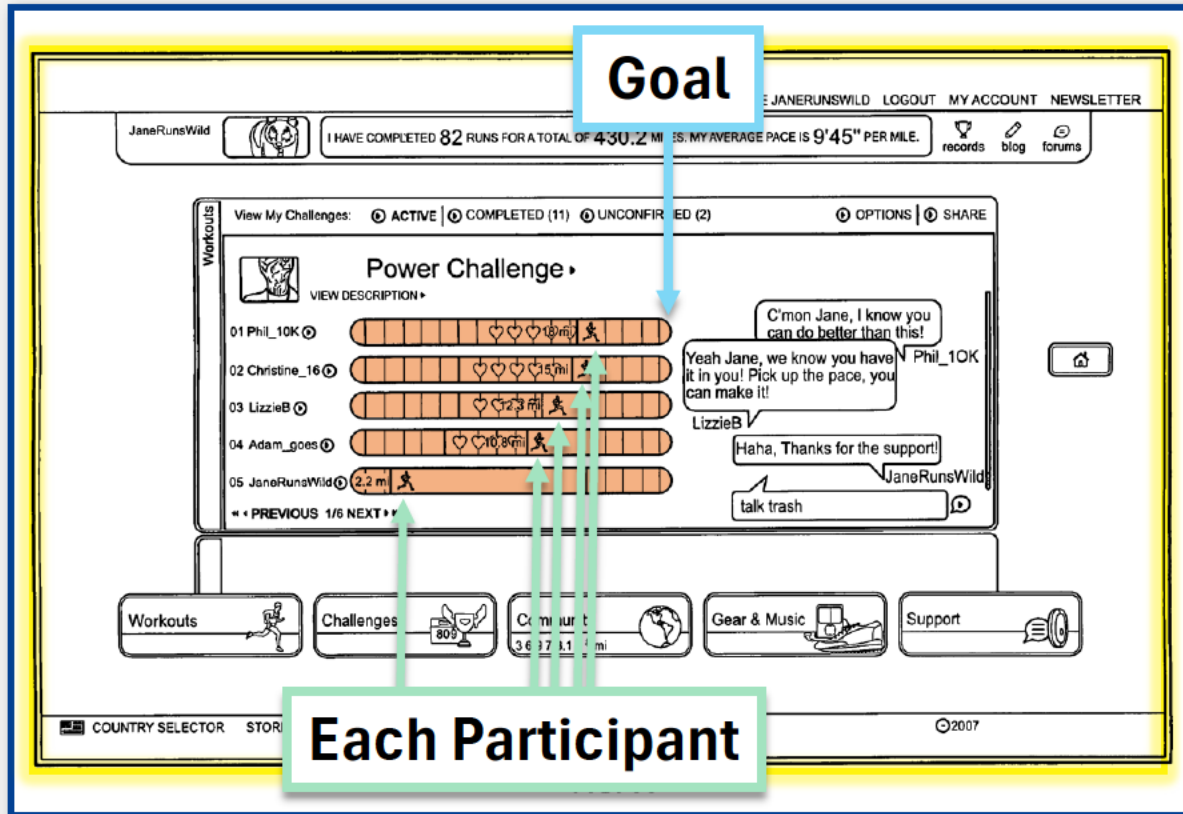
## Tagliabue

ration device 601, etc. For example, the athletic data display configuration device 601 may configure and provide a user interface showing each participant's progress toward the goal of the challenge using, e.g., bar graphs for each participant of the type previously described with regard to monitoring individual goals.

Tagliabue (Ex. 1004), 22:60-65

# Tagliabue: Limitation 1[G]

Figure 36



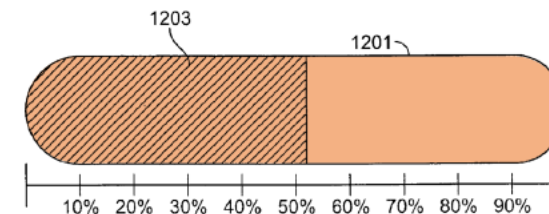
'256 Patent (Ex. 1001), Fig. 36

Tagliabue

ration device 601, etc. For example, the athletic data display configuration device 601 may configure and provide a user interface showing each participant's progress toward the goal of the challenge using, e.g., bar graphs for each participant of the type previously described with regard to monitoring individual goals.

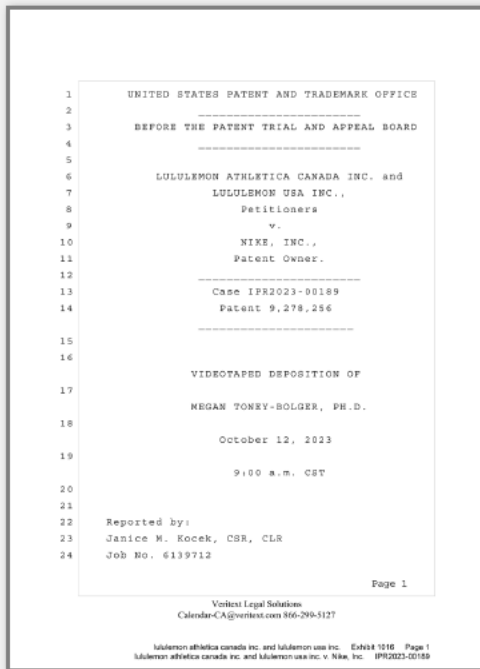
Tagliabue (Ex. 1004), 22:60-65

FIG. 12 illustrates an example of a user interface that may be provided to indicate a user's progress toward achieving an athletic activity goal according to various implementations of the invention.



Tagliabue (Ex. 1004), 3:53-56, Fig. 12

# Tagliabue: Limitation 1[G]



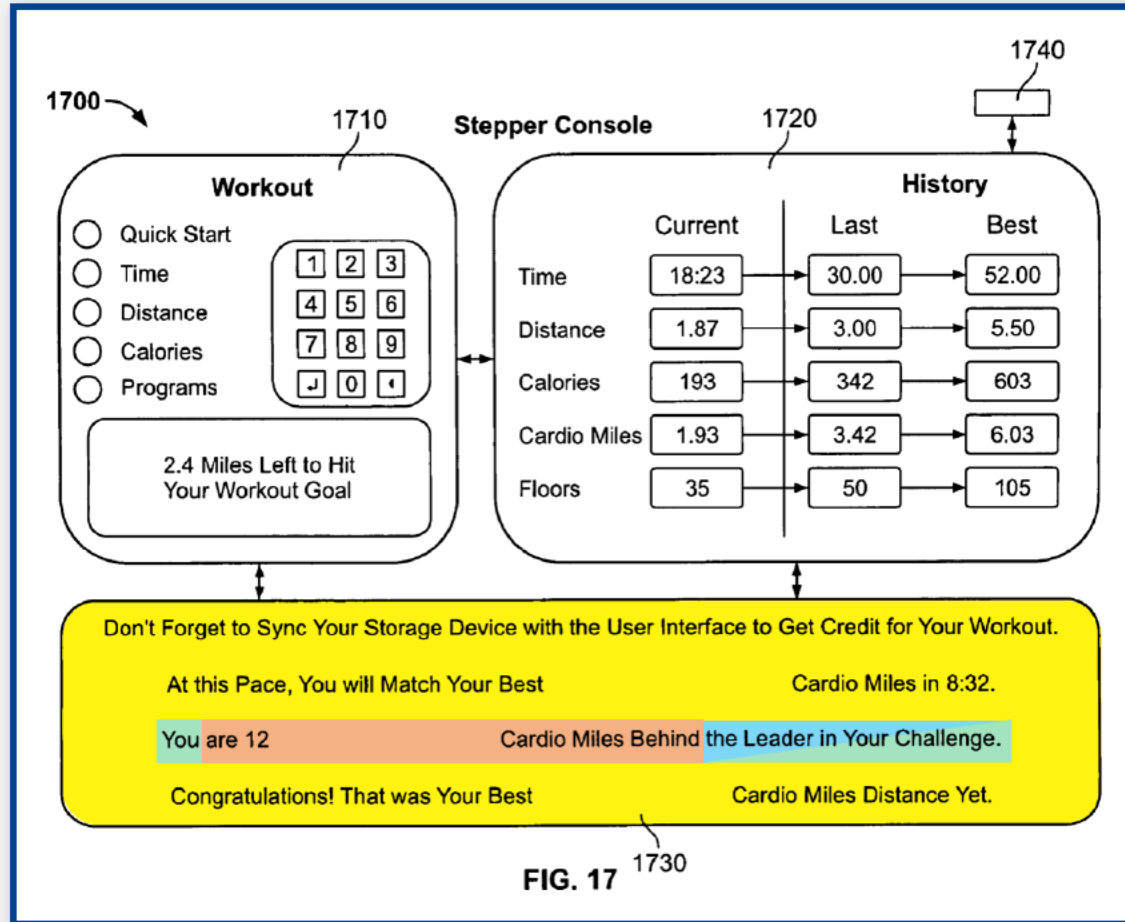
**Q.** Is **user interface 1700** an example of an interface that is continuously generated and simultaneously communicated in realtime?

**A.** Yes.

*10/12/2023 Toney-Bolger Tr. (Ex. 1016), 25:22-26:1*

# Tagliabue: Limitation 1[G]

## Interface 1700



## Tagliabue

ration device 601, etc. For example, the athletic data display configuration device 601 may configure and provide a user interface showing each participant's progress toward the goal of the challenge using, e.g., bar graphs for each participant of the type previously described with regard to monitoring individual goals.

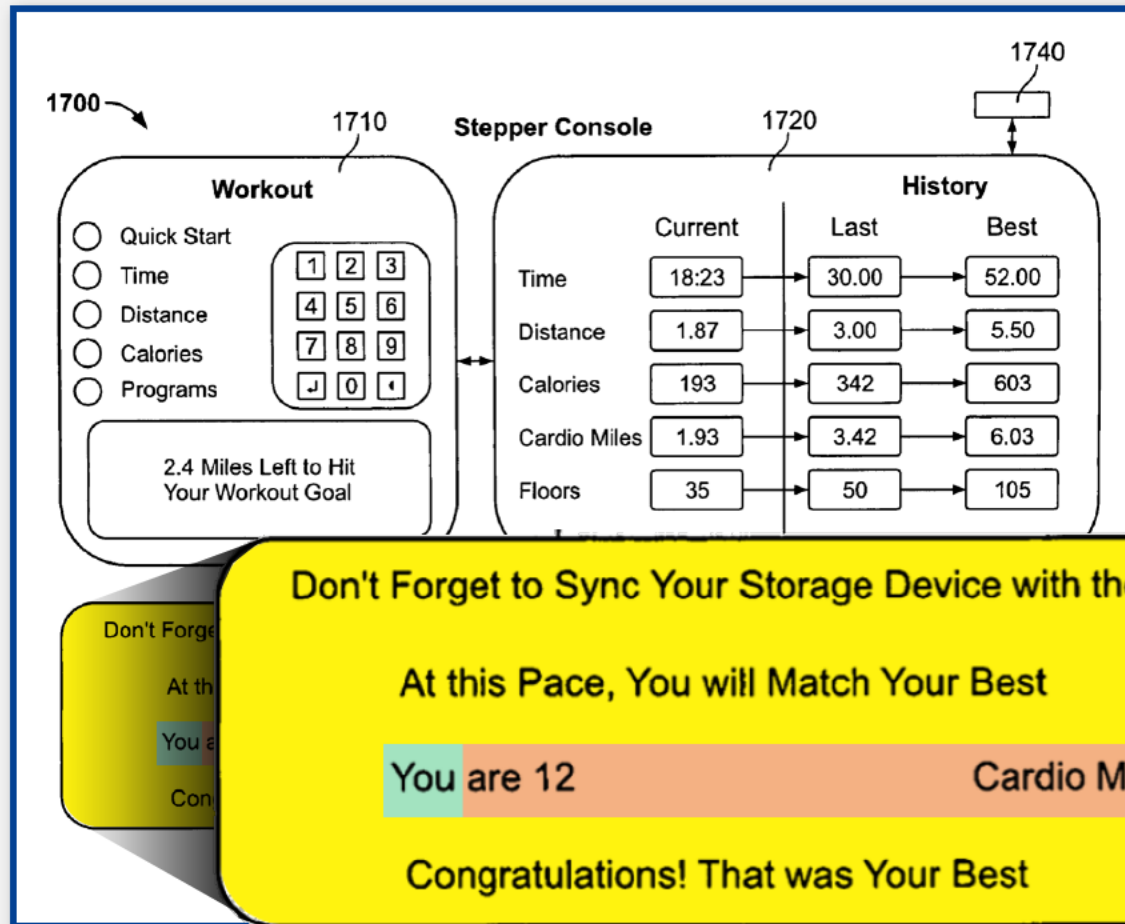
Returning now to FIG. 13A, if a user wishes to establish a challenge regarding who can run the most miles in a given period of time, then the user activates the "Most Miles" button 1305. In response, the athletic data display configuration

*Tagliabue (Ex. 1004), 22:60-23:2*

*'256 Patent  
(Ex. 1001), Fig. 17*

# Tagliabue: Limitation 1[G]

## Interface 1700



## Tagliabue

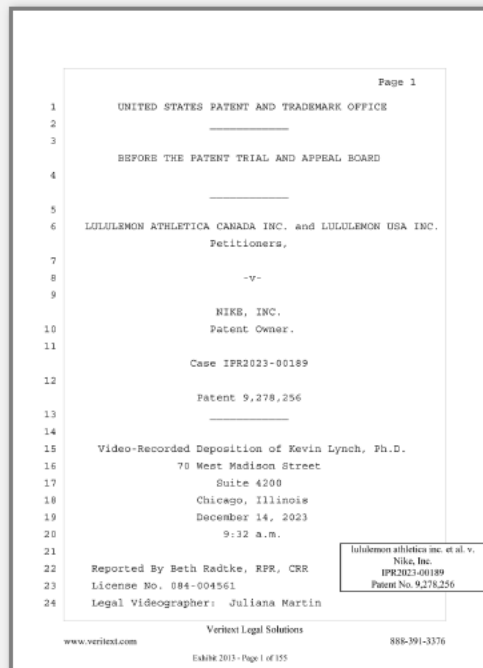
ration device 601, etc. For example, the athletic data display configuration device 601 may configure and provide a user interface showing each participant's progress toward the goal of the challenge using, e.g., bar graphs for each participant of the type previously described with regard to monitoring individual goals.

Returning now to FIG. 13A, if a user wishes to establish a challenge regarding who can run the most miles in a given period of time, then the user activates the "Most Miles" button 1305. In response, the athletic data display configuration

x. 1004), 22:60-23:2



# Limitation 1[G]: “continuously generat[e/ing]”



**Q.** Would providing constant updates require updates to be provided at some time interval?

**A.** No.

**Q.** What's another way that a system could provide constant updates?

**A.** For instance, updating when there's something to be updated.

**Q.** That would be a constant update, in your opinion?

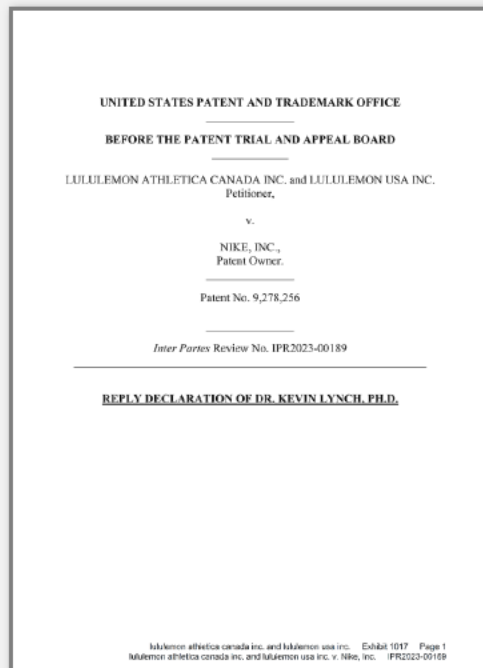
**A.** Yes. There's nothing to update, then don't update until there's something new to say.

*12/14/2023 Lynch Tr. (Ex. 2013), 67:24-68:13 (objection omitted)*



# Tagliabue: Limitation 1[G] (Claims 1, 11)

## Dr. Lynch Also Confirmed Tagliabue's Teachings



refer to a continuously generated interface. (Ex. 1004 (Tagliabue), 22:60-65.) A POSITA reading Tagliabue would have understood that such an interface would be generated “without interruption” because the alternative would not provide “updates regarding the status of a participant relative to other participants,” as Tagliabue discloses. (Ex. 1004 (Tagliabue), 22:55-56, 22:62-63.)

**continuously  
generate**

*Lynch Rep. Decl. (Ex. 1017), ¶ 19*

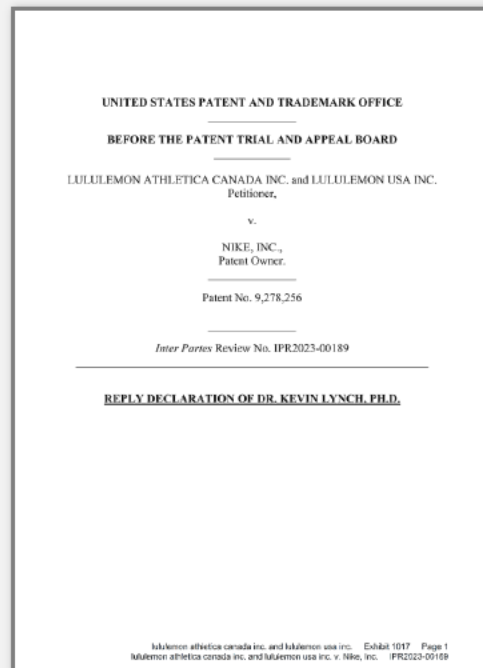
communicated in “real time.” If a user perceived a delay between the performance of their athletic activity and the interface’s display of the same, then the interface would not accurately reflect “each participant’s progress” or their “status . . . relative to other participants.” (See Ex. 1004 (Tagliabue), 22:54-56, 22:61-63.) Thus,

**in real time**

*Lynch Rep. Decl. (Ex. 1017), ¶ 30*

# Tagliabue: Limitation 1[G] (Claims 1, 11)

## Dr. Lynch Also Confirmed Tagliabue's Teachings

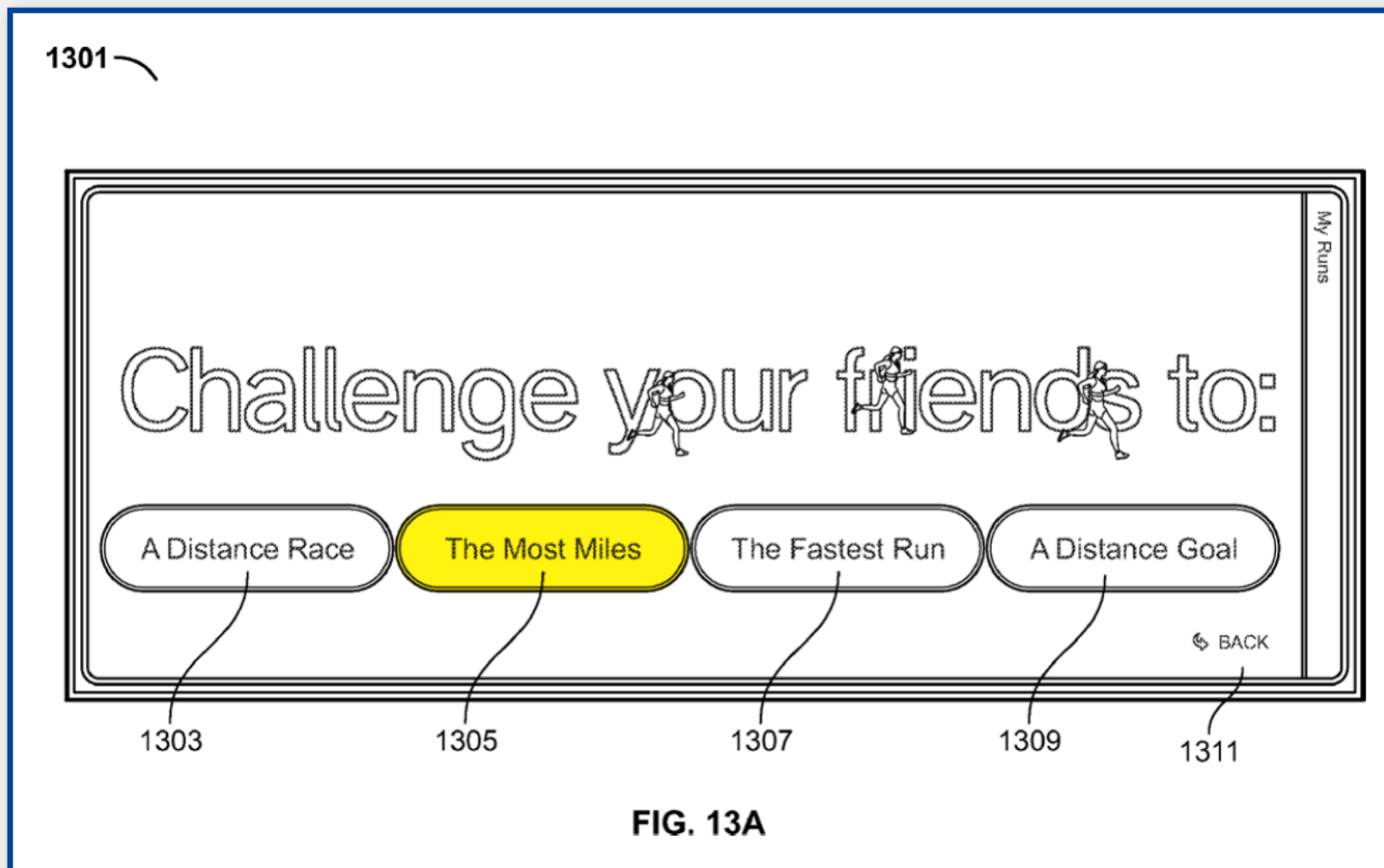


.” (Ex. 1004 (Tagliabue), 23:36-40.) Since it would not make sense to delay sending the interface—which is supposed to “show[] each participant’s progress toward the goal of the challenge” (Ex. 1004 (Tagliabue), 22:62-63)—to any participant relative to another, a POSITA would have understood that Tagliabue’s system simultaneously communicated the interface to each participant in a challenge.

**simultaneously  
communicate**

*Lynch Rep. Decl. (Ex. 1017), ¶ 27*

## Tagliabue: “common unit” (Claims 7, 15)



Tagliabue (Ex. 1004), Fig. 13A

# **Watterson + Arrasvuori (Ground 5)**

# Watterson: Five Limitations Are in Dispute

1. A system comprising:  
an athletic performance module configured to receive athletic activity data from a wirelessly-connected sensor worn on an appendage of a first user, wherein the first user is performing athletic activities at a first location; and  
a challenge module configured to:  
receive information specifying a challenge, wherein the challenge includes a competition between the first user, and a second user performing athletic activities at a second location, different to, and remote from, the first location;  
determine, from the received athletic activity data, a first amount of athletic activity performed by the first user;  
receive data from a second sensor indicating a second amount of athletic activity performed by the second user;  
determine whether the challenge has been met by the first user based on a comparison of the first amount of athletic activity performed by the first user and a second amount of athletic activity performed by the second user; and  
continuously generate and simultaneously communicate in real-time to the first user at the first location and the second user at the second location, an interface indicating whether the challenge has been met.

*'256 Patent (Ex. 1001), Claim 1*

2. 7. The system of claim 1, wherein the challenge is defined in terms of a common unit used for multiple types of athletic activities.

*'256 Patent (Ex. 1001), Claim 7*

3. 8. The system of claim 1, wherein the challenge is specified in terms of a unit in which the athletic activity is measured.

*'256 Patent (Ex. 1001), Claim 8*

4. 12. The method of claim 11, wherein the sensor worn on the appendage of the first user comprises a location-determining sensor.

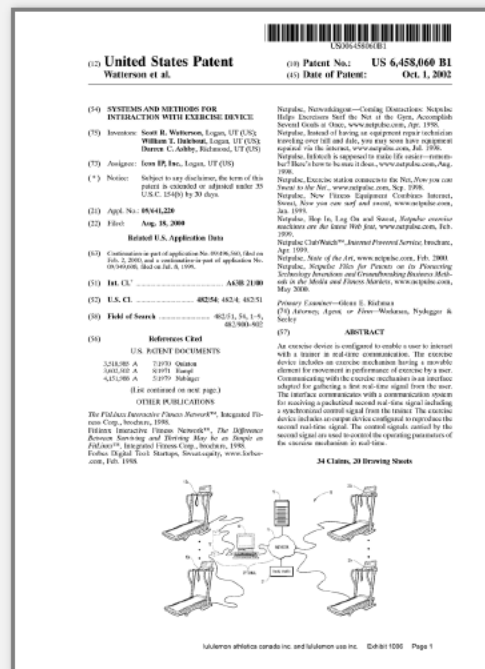
*'256 Patent (Ex. 1001), Claim 12*

5. 13. The method of claim 11, wherein the sensor worn on the appendage of the first user comprises an accelerometer.

*'256 Patent (Ex. 1001), Claim 13*

# Watterson: Limitation 1[D] (Claims 1, 11)

## Watterson's Disclosures Revealed, But Did Not Solve, a Problem



device. For example, in a spinner class, upon activation of a more intense riding experience by the master, the slave spinners also give their riders a similarly intense riding experience. The master may selectively choose groups of participants based on various criteria, such as participant's heart rates, and change those participants exercise program, while maintaining other participants at the original or different exercise level.

Watterson (Ex. 1006), 49:4-11



# Watterson: Limitation 1[D] (Claims 1, 11)

## Arrasvuori Provided a Solution

### Arrasvuori

[0060] As another example, provision of display wherein graphical indicators corresponding to users are positioned relative to one another, a goal, and/or a route might take into account one or more fitness levels of a user such that performance of the task in a certain manner would result in greater progress being depicted by the display in the case where one or more lower fitness levels were associated with the user and/or would result in lesser progress being depicted by the display in the case where one or more higher fitness levels were associated with the user. As an illustrative example, in the case where overall fitness level was to be taken into account in display and the real-world fitness task involved running, in the case where two users performing the real-world fitness task each traveled the same real-world distance within a certain elapsed time, the user associated with the lower overall fitness level might be depicted as having gone further.

Arrasvuori (Ex. 1005), ¶ 60

### Watterson

treadmill 12 via network 16. Such signals may include audio and visual signals of the user exercising, the status of the exercise device, such as active status, deactivated status, standby status, data and information about the user, such as heart rate, blood pressure, and the like that has been gathered by one or more health monitoring devices. Such devices may include but are not limited to electrodes, transducer, other ECG monitoring devices, a pulse watch, a heart rate monitor, an EKG electronic detection device, an ECG electronic detection device, and the like. Similarly, interface 198

Watterson  
(Ex. 1006),  
18:66-19:7

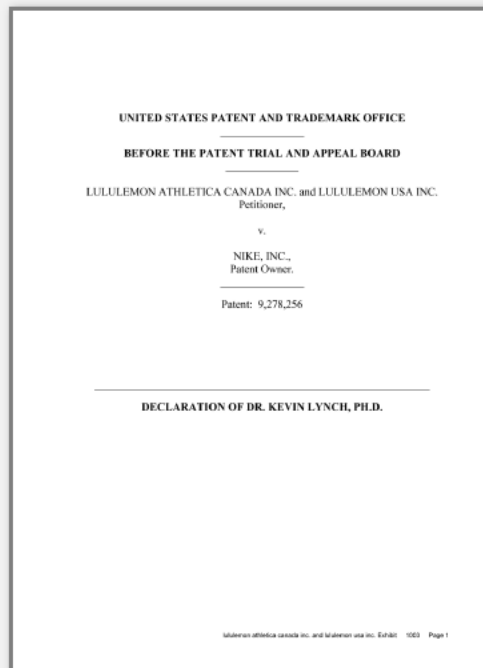
Synchronization prepares the communication links between each competitor and generates the displays and data flow therebetween, such as but not limited to the audio and video data flows and displays that enable each competitor to view their progress against each other. For example, the display may include a racing track that shows a relative position of each competitor one with another, or a trail that each competitor races along.

Watterson  
(Ex. 1006),  
41:66-42:6



# Watterson: Limitation 1[D] (Claims 1, 11)

## Dr. Lynch Confirmed a Reasonable Expectation of Success



115. A POSITA would have had **no difficulty** implementing this combination with a simple tweak to Watterson's software. To explain, I will first

*Lynch Op. Decl.*  
(Ex. 1003),  
¶ 115

116. Using  $v$ ,  $h$ , and  $h_c$ , a POSITA could have normalized a user's apparent velocity during Watterson's personalized race by their heart rate. For example, a POSITA could have tweaked Watterson's software to depict a user's progress along a racing track at an "apparent" velocity  $v'$  rather than  $v$ , where  $v' = v * h / h_c$ . Because  $v'$  equals the multiple of a user's actual velocity and a quotient proportional to a user's heart rate, this modification would correlate a user's apparent performance in a personalized race to their heart rate.

117. **Modifying a virtual object's apparent velocity by scaling a variable would have been trivial to a POSITA in 2008.**

*Lynch Op. Decl.*  
(Ex. 1003),  
¶ 116-17

2 3

## Watterson: “common unit” / “unit in which the athletic activity is measured” (Claims 7, 8, 15, 16)

### Watterson’s Treadmill Could Detect Distance

Treadmill 12, as depicted, optionally includes one or more sensors, such as **belt speed sensor 230** and incline sensor 232. Each sensor 230, 232 gathers a particular operating parameter of treadmill 12 (speed of belt 42 (FIG. 4) and incline of tread base 26), such that control panel 22 may present outputs via the output devices that are indicative of the present operating state of treadmill 12 at any given point in time. Treadmill 12 may include other sensors that gather various other operating parameters, such as but not limited to, maximum pulse and heart rate, average pulse and heart rate, target heart rate, **length of workout session**, and the like.

*Watterson (Ex. 1006), 25:10-20*

### Watterson Already Defined One Race Embodiment in Miles

One particular race type is a race around the world. In the race around the world type race, an individual races against various other individuals to determine who will run around the world in the shortest time. Communication module 254 tracks the exercising activities of competing users of user modules 252a–252b and computes the distance traveled per exercise session and per user. A running total of the distance traveled is maintained and updated. **Each competitor may compare the total distance traveled against other competitors to see who runs a number of miles equivalent to running around the world in the shortest time.**

*Watterson (Ex. 1006), 40:37-47*

# Watterson: “location determining sensor (Claim 12)”

## Adding a Location Determining Sensor Was Obvious

### GPS Sensors in Wearables Were Well-Known

[0040] Employed monitoring equipment might, for instance, include equipment employable in monitoring and/or ascertaining geographical location (e.g., Global Positioning System (GPS) hardware might be employed), proximity (e.g., Radio Frequency Identification (RFID) tag interface hardware might be employed), altitude (e.g., altimeter and/or GPS hardware might be employed), temperature (e.g.,

*Arrasvuori (Ex. 1005), ¶ 40*

In step 7040, a position monitor may be provided as an INC in the MPN. The position monitor may be a GPS monitor in substep 7042. The position monitor may send position data to a control unit or other component with storage capabilities at regular intervals. The position monitor may also be worn by the user. In step 7050, the position

*Ellis (Ex. 1007), 84:12-26*

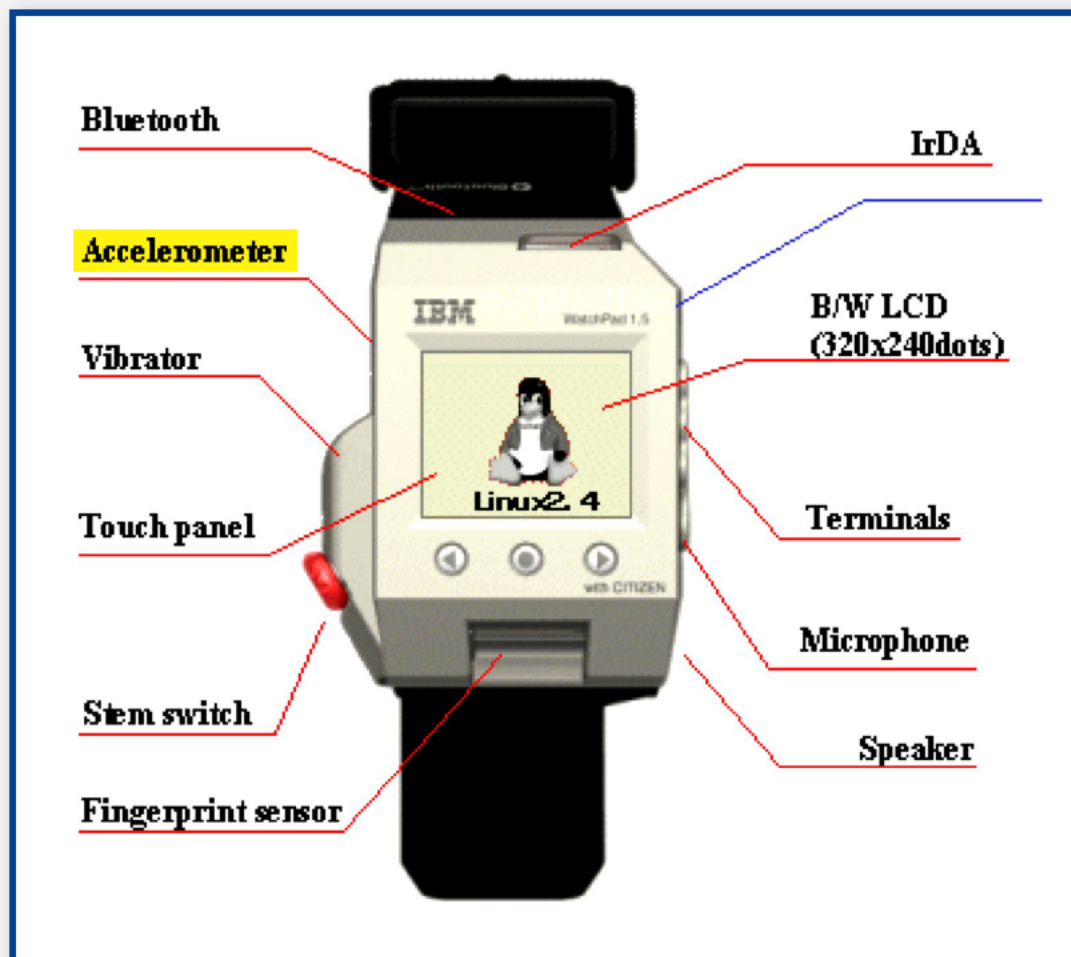
### Watterson Needed Location Data

With reference to FIG. 17A, another type of race is a personalized race, as depicted by block 406. In the personalized race, two or more individuals schedule a live on live session, such as in a private room of personal training module 312 where they may race one against the other, while viewing graphical representations of the distant, time, and speed of the other competitors. Alternatively, two or more individuals may schedule a race where the start time is adjusted based upon the particular location of the competitors.

*Watterson (Ex. 1006), 41:42-51*

# Watterson: “an accelerometer” (Claim 13)

## Adding an Accelerometer Was Obvious



IBM Webpage (Ex. 1011) at 1

[0040] Employed monitoring equipment might, for instance, include equipment employable in monitoring and/or ascertaining geographical location (e.g., Global Positioning System (GPS) hardware might be employed), proximity (e.g., Radio Frequency Identification (RFID) tag interface hardware might be employed), altitude (e.g., altimeter and/or GPS hardware might be employed), temperature (e.g., user temperature and/or environmental temperature), humidity, air pollution, barometric pressure, environmental topography, route (e.g., three-dimensional route) traveled, heart rate (e.g., heart rate meter hardware might be employed), respiration rate, heart electrophysiology (e.g., electrocardiogram hardware might be employed), blood oxygen saturation, number of steps taken and/or distance traveled (e.g., pedometer hardware might be employed), speed, elapsed time, and/or perspiration (e.g., skin conductance measuring hardware might be employed). It is noted

Arrasvuori (Ex. 1005), ¶ 40



# Dr. Lynch

Lululemon vs Nike  
Dr. Kevin Lynch - 07/27/2023 Page 1

1 UNITED STATES PATENT AND TRADEMARK OFFICE  
2 BEFORE THE PATENT TRIAL AND APPEAL BOARD  
3  
4 LULULEMON ATHLETICA CANADA INC. }  
5 and LULULEMON USA INC. }  
6 Petitioners, } CASE NO.  
7 } IPR2023-00189  
8 NIKE, INC., }  
9 Patent Owner. }

10  
11  
12  
13  
14  
15 REMOTE VIDEO DEPOSITION OF DR. KEVIN LYNCH  
16 JULY 27, 2023  
17 9:04 a.m.  
18 Los Angeles, California  
19  
20  
21  
22  
23  
24 Reported Remotely By:  
25 Brandi R. Celestino  
CSR No. 13640

Lululemon athletica inc. et al. v. Nike, Inc.  
IPR2023-00189  
Patent No. 9,278,256  
Ex. 2006

LEXITAS

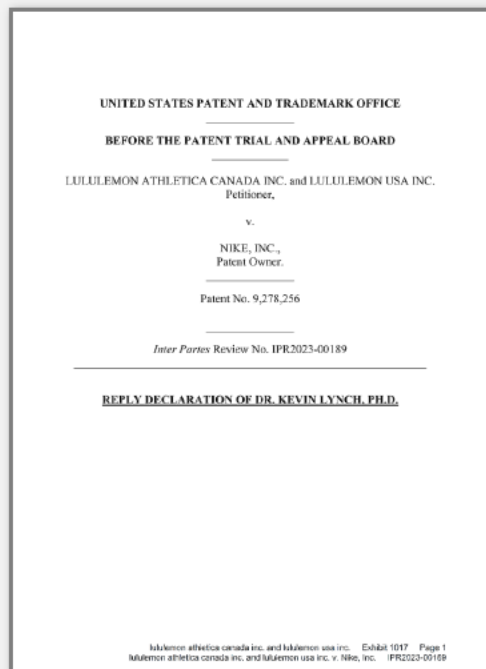
512.216.8900  
257.453.4750  
Fax 512.216.8900

Exhibit 2006 - Page 1 of 135

**A.** And my determination that Arrasvuori is disclosing what's in this claim element is based on my own engineering understanding, what a POSITA would know, and the specification of the '256 patent. P-O-S-I-T-A, person of ordinary skill in the art.

*7/27/2023 Lynch Tr. (Ex. 2006), 41:7-11*

# Dr. Lynch



35. Arrasvuori discloses at least two continuously generated interfaces under Nike’s “without interruption” construction of that term. Those interfaces are (1) leaderboards and (2) other graphical representations of user progress. (*See, e.g.*, Ex. 1005 (Arrasvuori), ¶¶ 50-53.)

*Lynch Rep. Decl.*  
(Ex. 1017), ¶ 35

18. Below are the two paragraphs from Tagliabue that contain the disclosures cited by the Board and Dr. Toney-Bolger:

[Excerpts from Tagliabue]

(Ex. 1004 (Tagliabue), 22:31-65.) In my opinion, a POSITA would have understood that these disclosures, along with the other disclosures I cite below, teach an interface that is continuously generated and simultaneously communicated in real-time according to Nike’s constructions of those terms.

*Lynch Rep. Decl.*  
(Ex. 1017), ¶ 18

**Certificate of Service (37 C.F.R. § 42.6(e)(4))**

I hereby certify that the attached PETITIONER'S DEMONSTRATIVES  
was served as of the below date via e-mail (by agreement) to the following counsel  
of record for the Patent Owner:

Christopher J. Renk (Reg. No. 33,761)  
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Nicholas M. Nyemah (Reg. No. 67,788)  
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